



IDAHO DEPARTMENT OF HEALTH & WELFARE

Bureau of Community and Environmental Health

Pentachlorophenol Fact Sheet

People may be exposed to pentachlorophenol from treated wood, wood treatment activities and contaminated materials. Pentachlorophenol can harm the liver, kidneys, blood, lungs, nervous system, immune system, and gastrointestinal tract. It also can irritate the skin and eyes.

What is pentachlorophenol?

Pentachlorophenol (penta) is a manufactured pesticide not found naturally in the environment. It has a sharp, chemical odor when hot, but very little smell at room temperature. Penta is used as a wood preservative for power line poles, railroad ties, cross arms, and fence posts. Since 1984, the use of penta has been restricted to certified applicators. It is no longer available for home and garden use.

Penta in the environment.

Penta tends to stick to soil particles and does not move through the soil well. Penta does not dissolve easily in water, and not much penta will evaporate into the air. In soil and surface waters, microorganisms break penta down into other compounds. Penta in the air and in surface waters also is broken down by sunlight. Penta lasts for hours to days in air, soil, and surface waters.

How may I avoid exposure to penta?

Exposure to penta occurs mainly through inhalation or contact with the skin. Oral ingestion is a less common means of exposure. Avoid breathing contaminated air from wood treatment facilities, treated wood, waste sites, and accidental spill sites. Avoid touching penta treated logs or contaminated soils near wood treatment facilities or waste sites. Avoid eating or drinking contaminated food or water.

People should wash their hands and face after coming into contact with penta or penta-coated materials. Children should avoid contact with playground equipment and telephone poles treated with penta. Clothes exposed to penta, or materials treated with penta, should be thoroughly washed separately from other clothing.

What are the health effects of penta?

Short-term exposures (14 days or less) to large amounts of penta can harm the liver, kidneys, blood, lungs, nervous system, immune system, and gastrointestinal tract. Long-term exposure (1 year or more) can harm the liver, kidneys, blood, and the nervous system. Direct contact with penta can irritate the skin, eyes, and mouth, especially when it is a hot vapor. Impurities in penta, such as dioxin and dibenzofurans, used for wood treatment may cause many of its harmful health effects.

There is weak evidence, based on animal studies, that penta may cause cancer in humans. The Environmental Protection Agency classifies penta as a probable human carcinogen. Certain people may be more sensitive to exposure to penta. Potentially sensitive people include young children, the elderly, pregnant women, those with liver or kidney problems, and those who work in hot environments. Penta is rapidly passed out of the body. Studies have shown that half of the penta in a human body is eliminated within 10 hours to 20 days.

Government recommendations to protect human health.

The Environmental Protection Agency (EPA) and the Idaho Department of Environmental Quality (DEQ) have set a limit for drinking water of one part of penta per billion parts of water. The IDEQ regulation for penta in the air is twenty-five micrograms of penta per cubic meter of air. The EPA requires reporting of penta spills and accidental releases into the environment of ten pounds or more.

For more information

The Bureau of Community and Environmental Health (BCEH), Idaho Division of Health, works with the *Agency for Toxic Substances and Disease Registry* to protect human health from dangerous substances in the environment. BCEH has a program to inform and educate the citizens of Idaho about these substances at hazardous waste sites and the activities being conducted at these sites. This fact sheet has been created to assist you in understanding the potential health risks from exposure to pentachlorophenol. For more information, contact:

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